FRAMING THE MODEL WORKPLACE

Tri-Laboratory Technical Women's Spring Forum 2002

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EXECUTIVE SUMMARY

In March 2002, technical women from the National Nuclear Security Administration's (NNSA's) three weapons laboratories—Lawrence Livermore National Laboratory (LLNL), Sandia National Laboratories (SNL), and Los Alamos National Laboratory (LANL)—gathered in Albuquerque, New Mexico, for a one-day forum to discuss the elements of their ideal workplace. Women from the LLNL and SNL/California sites also participated via videoconference. This event, Framing the Model Workplace: Spring Forum 2002, focused on two broad areas of concern: (1) career development and mentoring and (2) work/life balance.

During the morning sessions, participants discussed the issues and barriers they perceived in the two areas. Then they used the afternoon sessions to craft strategies to address them. The final result, which is presented in this report, is a series of recommendations targeted to the key audiences: senior managers at the three laboratories, the network of women across the sites, and each woman as an individual employee.

Several issues can affect the career development of technical women at the NNSA laboratories. In particular, participants noted that a detailed yearly assessment describing both accomplishments and opportunities for growth is critical to success. Coupled with an objective, productivity-based system of appraisal, this ongoing career development process would help employees better understand how to advance their careers and make their fullest contribution to the organization. Such a system would also help managers to recognize that career paths are not "one size fits all" and instead must be adapted to meet an employee's skills and abilities as well as needs throughout each person's career. Another important issue is providing dual career paths, one for management-track opportunities and one for technical-track. Mentoring, in its many forms, is also important for professional growth and must be encouraged and facilitated. In addition, access to the formal and informal networks within an organization is crucial to an employee's success, and mentoring programs should help employees connect with those networks.

Work/life balance is an important issue for all employees, regardless of job classification or gender. However, women may be significantly affected in this area because they often assume primary responsibilities in caring for children or aging or infirm parents. Of particular importance is the issue of flexible work arrangements, including part-time work, other flexible scheduling options, and telecommuting. Employees who use these options may be perceived as under performing relative to their coworkers because managers may unknowingly use "face

time" in the office as a measure of productivity. Also, although each NNSA laboratory offers flexible work options, access to such schedules is not uniform across the organization, and supervisors are often not supportive of employees using them. Here, the participants identified the need for role models in senior management as an important step to creating a culture that values and supports all employees. Other support services were discussed as well, including high-quality childcare facilities, exercise facilities, and access to services typically available only during regular business hours such as a post office or dry cleaners.

A great deal of discussion centered on the issue of communication. It is critically important that management communicate clearly and completely with employees. Furthermore, each organization must accept and value different communication styles. Women often report feeling penalized because they do not fit what has been the standard model for scientific interchange—a model that is often characterized by combative and confrontational interactions. As a result, women believe their credibility is unfairly questioned, and they may feel isolated and marginalized by their organizations. To resolve such conflicts in communication, forum participants recommend that each laboratory work to create a culture where rigorous technical debate can go hand in hand with civility and respect.

Forum participants strongly endorsed continuing this dialogue and finding other avenues to strengthen the network among the women from each laboratory, NNSA, and the Department of Energy (DOE). The opportunity to discuss issues, share ideas and best practices, and support one another was extremely valuable, and another forum is planned for 2004.

I. ABOUT THE FORUM

Framing the Model Workplace, the Tri-Laboratory Technical Women's Spring Forum held in March 2002, was a direct outgrowth of work that has been undertaken over the past several years at NNSA's weapons laboratories in California and New Mexico. This work—and the resulting forum—focused on strategies to enhance the recruitment, retention, and advancement of women in the technical workforce and to build alliances among the women from the different laboratories.

These efforts began at the California laboratories in 1999 when Congresswoman Ellen Tauscher encouraged women scientists and engineers from Lawrence Livermore National Laboratory (LLNL) and Sandia National Laboratories, California (SNL/California), to provide input to the Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology (CAWMSET). A one-day conference was held November 10, 1999, in San Ramon, California. Co-sponsored by the two laboratories and the Society for Women in Engineering (SWE), Strategies Within—Forging New Realities for Women in Science, Engineering, and Technology brought together 100 women scientists, engineers, and technologists from national laboratories, industry, and universities, principally from the San Francisco Bay Area. Three members of CAWMSET participated in this event, and the ideas generated were collected into a report to the commission entitled, *Attracting and Retaining Technical Women—What Works?* Local working groups at both LLNL and SNL/California grew out of that event and began to work with their respective senior management to help reshape their workplaces.

In 1999, a report on national data indicated that the number of female managers in science and engineering fields was not growing as fast as the so-called pipeline from which these women were being recruited. As a result, SNL/New Mexico began the Women in Technical Management Project to compare that laboratory's status with the national data. As part of the project, SNL/New Mexico held a series of small workshops to determine which issues might contribute to an "unfriendly" environment for technical women in management. These workshops culminated in the Women in Management (WIM) Conference, which was held in May 2000 to further examine the issues affecting this trend.

In August 2001, a group of technical women at LLNL and SNL/California again met with Congresswoman Ellen Tauscher, to brief her on the findings of the 1999 conference, the report to CAWMSET, and the recommendations made to the senior managers at both laboratories. Congresswoman Tauscher challenged this group to host another forum, this time including employees from the three weapons laboratories—LLNL, Los Alamos National Laboratory (LANL), and both Sandia campuses. At this forum, technical women from the three laboratories discussed ideas for reshaping the technical workplace. This report details the outcomes of that meeting, on March 26, 2002, in Albuquerque, New Mexico: the Tri-Laboratory Technical Women's Spring Forum 2002, Framing the Model Workplace.

II. VISIONS OF THE FUTURE

At the March 26 forum, facilitated breakout sessions focused on two primary areas: (1) career development and mentoring and (2) work/life balance. In the morning sessions, participants identified the major issues and barriers confronting technical women in the workplace. Then in the afternoon sessions, they used these lists to frame strategies for improving the work environment.

Sessions were broken into small groups of 10 to 12 people both at Albuquerque and at Livermore. A third breakout session was held at Livermore to focus on communication. Each group was instructed to discuss the topic and report back what they identified as the primary issues within each area.

Career Development and Mentoring

Facilitators for the first area career development and mentoring challenged participants to define the forces that develop and shape the careers of technical women. One key issue is that the laboratories have only one clearly defined track for career advancement. In a one-track system, employees who have management responsibilities seem to be valued more highly than employees who work in purely technical roles. The best opportunities and the most significant salary gains are found in management roles. As a result, the laboratories may lose valuable technical expertise because employees want to pursue the one career track that is available to them. In addition, the laboratories may promote their best technical employees because promotion is the only way to reward them for stellar performance. Too often, excellence in technical roles does not translate to excellence in management roles because promoted employees may not have developed the people-management skills needed for the new assignments or they do not enjoy the challenges and responsibilities of managing.

A dual-track system would provide advancement opportunities for employees in both technical or management roles. Employees could then choose the career path that best suited their talents and interests, knowing that salaries would be more closely aligned with an employee s contributions to the organization than to his or her job title. The laboratories could more easily support the soft skills of people management without losing the technical expertise that laboratory programs need to succeed.

A second career-development issue is that employees are not encouraged to discuss their career plans with their supervisors. As a result, many employees believe they are not part of their own career-development process. This problem is exacerbated in programs where people-management skills are not highly valued, so managers and supervisors are not encouraged to improve their performance in this area. Forum participants recommend that the laboratories implement a more structured career-development process one that begins when an employee joins a laboratory and continues throughout her or his career. During annual performance

reviews, supervisors would also discuss an employee's career opportunities, which opportunities appeal to the employee, and the skills and experiences needed to pursue them.

A related issue is the need for an objective, productivity-based appraisal system. Such a system would ensure that all employees are evaluated for the contributions they make to their organizations, rather than for the number of hours they are seen at work. This issue is particularly important to employees who work part time, telecommute, or choose a flexible schedule. Employees on an alternative work schedule are often less visible than those who spend more time in the office or who work during traditional business hours. In a subjective review process an employee's visibility, especially face-to-face time with a supervisor, can have a subtle, even subconscious effect on the performance appraisal. A productivity-based appraisal system would provide a check against this perception and help to ensure that employees are recognized for their achievements regardless of what career path or work schedule they have chosen.

One concern noted by the participants is that many of the new career-development opportunities at the laboratories are not offered to all employees. Instead, managers nominate or select employees to participate in these programs. Selection processes such as these often limit the diversity of future candidate pools because managers often select employees who exhibit the leadership skills that are valued by the current management team. Other employees who are interested in the new opportunities might also succeed given the proper training, but they are often overlooked in the nomination process because their desire or potential is not visible. This problem can be especially detrimental to women and people of color whose communication style does not match the current laboratory culture.

To counter this problem, forum participants strongly encourage the laboratories to develop a more ecumenical approach to participation. The laboratories should review policies and procedures to ensure that all employees have access to the resources, opportunities, visibility, and information that will help them become part of the decision-making processes in their organizations. Equal access to career-development programs and the option to self-nominate for participation are important to all employees, but especially to those at the beginning of their careers. At that stage, employees may not fully comprehend what skills and abilities they bring to the organization or what areas most need improvement for success. Also, by offering career-development programs to a broader audience, the laboratories will help ensure a diverse and talented candidate pool to lead the organizations in the future.

The discussions on career development also made clear that diversity must be viewed as a resource and strength of the organization. By listening to and valuing a variety of experiences and viewpoints, senior managers can broaden their perspective on problems and issues affecting the laboratories, which is critical to good decision making and to the health and intellectual vitality of any organization.

Effective mentoring and networking are vital to improving an employee's career. Forum participants recommend that laboratory managers develop formal mentoring programs, discuss

the programs with all employees, and provide time and resources to employees who want to participate in them. Mentoring programs should not be viewed in the narrowest sense of one person, one mentor. Instead, they should provide employees with a process for building networks that can change as needed throughout each employee's career. Forum participants also discussed ways individuals might develop a systematic approach to informal networking. For example, an employee might convene a personal "board of directors," wherein the board members are chosen to provide the skills and experiences relevant to that particular stage in the employee's development. Whether formal or informal, networks are a key to navigating a large organization successfully, and they must be facilitated and supported strongly by laboratory management.

Service to the organization and the community, scientific and otherwise, should be strongly encouraged and valued by the laboratories. Every employee should be encouraged to pursue opportunities to serve their communities and allowed the time and resources to provide this service. Such commitments build strong connections between the laboratories and the communities in which employees live and work. By serving in community organizations, employees better understand the needs and concerns of those outside the laboratory. They also have more opportunities to explain not only the laboratories' national security mission but also how new technology can be applied to other problems. When technical employees accept commitments to their professional organizations, they learn about research efforts at other facilities, and they serve as ambassadors for the laboratories, recruiting new talent and bringing fresh ideas to ongoing projects. Best of all, service opportunities outside the laboratory allow technical employees to describe the challenges and excitement of scientific research and thus encourage future generations to pursue technical careers.

To implement successful career-development and mentoring programs at the laboratories, managers at all levels must value the skills required to manage people. Each employee must be responsible for her or his own success, but talented managers can improve an employee's ability to navigate the various stages of a long-term career. Thus, an important facet for organizational success is to train managers and supervisors so they have the skills needed to guide a variety of employees and to then hold these managers and supervisors accountable for the success of their employees.

Work/Life Balance

In the morning sessions on work/life balance, participants identified several issues and barriers affecting women in the technical workplace. In particular, flexibility in work schedules and arrangements is critical for women and men who have competing pressures outside the workplace, such as arranging for childcare or care for aging or disabled parents, and attending to health care issues for themselves or their families.

Flexible work schedules are a wonderful benefit to employees faced with competing pressures on their time. However, their acceptance in the technical workplace is mixed at best. Although the laboratories have policies in place for alternative schedules, employees are often

blocked from using them because managers do not approve of such options. For these arrangements to be successful, a detailed agreement of conditions and expectations must be negotiated between the employee and her or his management. Managers must work to ensure that organizations accept alternative work schedules as a normal part of how the work gets done.

Finding role models, particularly in management, can be a useful method for employees to learn to balance competing priorities, both at work and at home. Senior managers also influence the laboratory culture when they commit to policies or programs that help employees in this area and then openly discuss the problems and solutions that arise as new procedures are implemented. Additionally, employee network groups can help educate employees about the benefits of any new programs and about effective techniques for dealing with competing priorities.

Forum participants recommend that laboratory managers continue to expand the support services offered, especially those that help employees attend to routine tasks and responsibilities. For example, Time Zone, the employee store at LLNL, sells stamps and greeting cards. It also has self-service pickup and delivery for photo processing and recently added UPS shipping services. Dry cleaning pickup and delivery may be offered soon, in response to requests from employees. These services are great timesavers for LLNL employees, who otherwise would need to drive off site to complete their errands.

Employees often identify access to on-site exercise facilities as an important benefit because such facilities make regular exercise a more convenient activity—something employees can schedule into their workday. Providing the facilities and encouraging employees to use them contribute to the overall health of the employee population, an added benefit to the employer.

Finally, access to high-quality childcare is a critical concern for many women, whether they work in technical fields or in other occupations. The barriers to such service are the costs associated with such facilities, for both employees and the laboratories, and the government restrictions on how NNSA laboratories may support them. Forum participants encourage the laboratory managers to continue working with employees, the contractor agencies, and NNSA to find affordable solutions to this continuing problem.

Communication

Communication is a problem area that is often mentioned by employees. One of the breakout sessions focused on this topic, particularly how communication problems may hinder the careers of technical women and the methods that are most effective for improving communication at the laboratories. For example, women often perceive that their credibility is questioned and, as a result, believe they need to prove themselves—to their peers and their supervisors—more than their male counterparts do. However, technical women may also be criticized for being too assertive or confrontational in presenting their ideas and solutions. These conflicting issues can create an image problem for women in the workplace. Yet, many women

report problems learning the cultural nuances of effective communication at the NNSA laboratories.

Image problems, because they are often based on first impressions and can affect an employee's credibility, are difficult to correct and may hinder an employee's career for her entire tenure at a laboratory. For example, some women report feeling marginalized, isolated, and silenced—believing that their ideas are not heard or not properly attributed to them.

Women also may believe they are in an adversarial role with the organization's management because their working style does not match a laboratory's traditional culture, because they are calling attention to problems in the work environment, or because management does not see the issue from the same viewpoint. The culture of the technical workplace is one of competitive cooperation. When a technical woman's peers, supervisors, and managers do not understand or accept different communication styles, that culture may inhibit technical women—and men—from being themselves and contributing effectively to the laboratories.

This problem can be especially difficult to solve when an organization has a "standard model" for communicating, when that model is rigid, when all newly hired or transferred employees must conform to an organization's communication style to be respected professionally, or when incivility, professional disrespect, and argumentative interactions are accepted as the standard method of doing science. Most technical employees understand that the best ideas arise from rigorous debate, but the definition of acceptable behavior can vary significantly. Forum participants encourage senior managers to ensure that the communication methods used at all levels of the laboratories are fluid enough to incorporate a range of styles, that all organizations foster respectful debate and discussion, and that employees can easily learn to navigate each laboratory's communication culture so they can perform at their best.

III. ACHIEVING THE MODEL WORKPLACE

The morning sessions of the forum focused on creating visions of the model workplace. In the afternoon, participants were asked to develop steps that could be taken now to work toward the ideal workplace at each laboratory—actions not only for laboratory managers but also for the women at each laboratory and the network of women at all NNSA laboratories. To select topics for the afternoon sessions, participants voted on the list of ideas generated in the morning sessions. Five topic areas were ultimately chosen: (1) culture change (which was discussed by two groups at the forum), (2) dual career paths, (3) nontraditional work schedules, (4) management training and accountability, and (5) mentoring and networking. A group in California also discussed communication.

Three subjects clearly pervaded all the discussions: networking, personal accountability, and the role of management. The problems discussed were not solely women's issues, and the recommended actions could improve the career opportunities and work environment for all employees. For example, creating a culture of respect helps all employees contribute to their full potential. Increased support systems, such as elder care and sick childcare, allow all employees to balance the competing demands of their careers and their personal lives. A dual-track career ladder ensures that the laboratories will benefit from the highest quality possible in both technical work and management. Other ideas to promote a productive, committed workforce include a career center, sabbatical programs, flexible work arrangements, management training that emphasizes people skills, and mentoring programs. Such programs should be evaluated periodically to ensure that they are being offered consistently to all employees and that they are value-added efforts with measurable results.

Forum participants noted that consistent application of laboratory policies is critical to the long-term success of the programs both for men and for women. For uniform application at each laboratory, managers must support the policies and model behaviors that illustrate how the policies benefit the organization. Clear and consistent procedures for managing employees will also help supervisors to assess each employee's contributions fairly and objectively, rather than relying on subjective metrics such as the hours an employee works or an employee's perceived commitment to the job. Forum participants also agree that developing more objective methods of performance appraisal is critical to maintaining a high-quality technical workforce over the long term.

Networking

Each discussion group highlighted the importance of women's networks, regardless of job classification, so women can learn from each other and continue their efforts to develop the model workplace. One suggested action is to pair experienced women with new employees. Another suggestion, designed to improve management skills, is to team technical leaders with managers who have developed excellent people skills.

Networking is a critical feature in many contexts, and several action items were suggested to provide more networking opportunities for women at the laboratories. For example, a Web site might help technical women connect with each other, allowing them to share ideas, successes, and best practices. Rotational assignments, where employees work for limited periods at another laboratory or at DOE or NNSA headquarters, would help employees learn about different leadership styles and approaches to problem solving. Forum participants agreed that continuing this dialogue across the laboratories, NNSA, and DOE would be valuable for the entire DOE complex, and another forum is planned for 2004.

Forum participants recommend that each laboratory designate one senior manager to serve as a point of contact for issues specific to technical women. By establishing such a role, the laboratories would provide the network of technical women with a common, dependable channel of communication to top-level management. This manager would be responsible for staying in contact with technical women throughout the laboratory and identifying issues that affect this community. He or she would ensure that important issues and intractable problems are not lost in the shuffle of laboratory problems, but are considered at the highest levels of the decision-making process and that laboratory organizations follow through on recommended actions.

Many organizations may be tempted to assign the point-of-contact responsibilities to a woman at the senior management level, assuming that a woman would already be familiar with the community and related issues. Forum participants, however, encourage the laboratories to consider appointing a man to this role as a way to further improve the dialogue between technical women and the laboratory's male senior managers.

Personal Accountability

A recurring theme regarding the role of individuals was personal accountability. Each woman has opportunities to make an important difference in her workplace. For example, an individual can work to ensure that all employees are valued and treated with respect regardless of job category. She can schedule a meeting with her supervisor to discuss career opportunities and then follow through on the suggested actions. Individuals also can serve as role models. They can take responsibility for their choices, seize opportunities to work and network with other women—especially new employees—and provide service to professional organizations and clubs.

Because networks are the lifeblood of large organizations, forum participants challenged each other to take personal responsibility for building strong, supportive connections, within their organizations, throughout their laboratory, and across the DOE/NNSA complex. Through formal and informal communication channels women learn the rules of engagement, build alliances, and formulate career strategies. When employees lack access to key information, they may feel marginalized, or they may be unable to do their jobs effectively. However, women must take the initiative to build support networks and actively seek access to the formal networks within their organizations.

The Role of Management

Managers are an important part of an employee's career development. They teach new employees how to navigate each laboratory's bureaucracy and help them develop the network connections needed for success. Managers also play a significant role in shaping the work culture because they model the communication styles and behaviors that are accepted by the organization at large.

Many forum participants noted, however, that managers often underestimate their roles and responsibilities in these areas. Some managers seem reluctant to try new methods to improve communication, or they fail to provide constructive feedback on employee performance. Many laboratory managers do not realize how strongly their expectations affect employee performance. When expectations are high, employees usually work to meet them. Unfortunately, when expectations are low, employees usually meet those as well. As a result, managers can unknowingly box employees into roles and, thus, fail to get the best performance possible.

Management styles are difficult to change, especially in large organizations. Forum participants encourage the laboratories' senior managers to focus on improving this area for the long-term health of the laboratories. In particular, all leaders in the organization, from the senior management team to first-line supervisors, should be evaluated not only on how well they deliver on the technical goals of the organization but also on how well they lead their organization, how they motivate employees, communicate with them, and create opportunities for each one to succeed, regardless of job classification, race, disability, or gender.

Every employee is hired with the expectation that he or she can make valuable contributions to the organization. Managers can help employees understand their roles within the organization and how the organization functions within the laboratory. In particular, managers are encouraged to openly discuss each employee's job responsibilities, performance objectives, and career opportunities. Employees also need honest, constructive feedback on their performance, especially on those skills or behaviors that prevent them from achieving their career goals.

All organizations contribute to the success of the laboratory. However, each laboratory's mission emphasizes the need for scientific and technical excellence. Support staff and service organizations must understand that the primary role of NNSA's weapon laboratories is to deliver scientific and technological solutions to the nation's national security problems. To succeed, the laboratories must ensure that technical employees, both women and men, are engaged in challenging work, that they have the resources and skills needed to accomplish their goals, and that they have opportunities to excel throughout their careers.

IV. THE PATH FORWARD

In envisioning the model workplace, participants at the technical women's forum propose that the NNSA laboratories should become role models for other large research and development organizations. To that end, the following action items are recommended:

1. Create a formal Technical Women's Network (TWN) at the NNSA laboratories, and provide opportunities for continued contacts, including a biennial tri-laboratory forum.

   1.1. Each laboratory should appoint representatives to a steering committee for the TWN via a process that includes self-nomination. The steering committee should meet twice per year to discuss issues of common concern to technical women at the NNSA laboratories and to acknowledge successful changes. The TWN as a whole should work to establish ties to women at the other DOE laboratories and expand the dialogue among technical women across the entire DOE complex.

   1.2. The TWN should create a communication forum, through a Web site or a mailing list, to foster discussions among the technical women at the laboratories.

   1.3. The TWN should be given the resources to plan a biennial meeting, hosted by each laboratory on a rotating basis.

   1.4. Senior managers at each laboratory should meet regularly with that laboratory's representatives to the TWN steering committee.

   1.5. The TWN steering committee should work to promote the workplace model as envisioned by the technical women's forum and draw attention to the progress made at each laboratory.

2. Each laboratory should identify a senior management champion for the technical women in their organization. This person can help sustain positive change in the organization by making sure that the perspectives of the technical women are well represented in the discussions of the senior management team. Part of the champion's role is to engage in an ongoing dialogue with the technical women at his or her laboratory and to remain well informed regarding issues and concerns.

3. The women at each laboratory should work together on issues of common concern regardless of job classification. Each person should work to ensure that all employees are treated with respect and valued for their contributions to the organization.

4. The laboratories should work to promote a culture based on respect, inclusion, and fairness. Each organization should critically assess how its policies, procedures, and institutional culture affect the ability of all employees—and technical women in particular—to contribute to their full potential. The common themes identified in this report regarding networking, personal accountability, and the role of management can provide a starting point for this effort.

5. NNSA should encourage its contractors to identify best practices and to implement those that are appropriate.

APPENDIX A
SUGGESTED ACTION ITEMS

During the forum's afternoon sessions, participants generated lists of action items to address the most compelling issues from the morning discussions. This appendix includes the suggestions from each session. Some actions were recommended in more than one session and, thus, may be repeated in this appendix.

Culture Change

Laboratories: Participants focused primarily on ways to create a culture of respect for all employees regardless of job classification. A root cause analysis was suggested to examine norms and behaviors. Forum participants related to Heather Wilson's comment (see Appendix D) about the value of having a "women's place," where women can kick off their shoes, speak frankly, and discuss issues. Many participants also want increased support systems, such as elder care, childcare, and sick childcare, and they support the idea of DOE/NNSA providing a subsidy for childcare.

LLNL participants developed specific action items to pursue, including developing cross-directorate strategies to solve problems and communication issues related to women, using existing employee survey action teams as a model for implementation, developing and supporting short-term and cross-directorate assignments, and developing and applying consistent practices and access to job opportunities.

Network of Women: Participants suggested building coalitions within each laboratory without regard for job classification, similar to Heather Wilson's "Wild Western Women" (see Appendix D). Coalitions would create and share such resources as reading lists, recommended courses, and networking opportunities. To help each other counter norms and change the laboratory culture, the network of women could acknowledge successes and raise the bar—defining new opportunities. Women can also be role models for each other individually and organizationally. Rotational assignments among the three laboratories would provide working opportunities for all employees to expand their networks throughout the NNSA complex and would help the three laboratories. There was strong support for continuing conversations across the laboratories.

The DOE/NNSA contingent defined specific actions, such as reinvigorating the DOE Review of Laboratory Programs for Women (which NNSA would now own), providing input via official channels (such as legislation), and using "congressional issues" documents to foster discussions with NNSA and Congress.

Individuals: A lively discussion ensued regarding areas where individual women could make a difference. Discussion topics included speaking out against disrespectful behaviors, supporting each other, educating ourselves on the issues, and heightening self-awareness.

Individuals can also support an inclusive environment by working to change the caste systems that exist at every laboratory and often divide women according to job category.

Dual Career Paths

Laboratories: To address the issue of many who believe that their organization does not allow for advancement as an individual contributor in a technical role, participants suggested that the laboratories create an internal dual ladder (technical and management) job structure. A tri-Laboratory committee could be formed to examine the issue further and to learn from the organizations that have such a job structure in place. Employee surveys are a possible resource for data gathering. In fact, the issue of dual career tracks was highlighted in the recent LLNL employee survey. It is too early to report how LLNL management will respond, but LLNL's senior managers are discussing the issue.

A Web-based career center could offer career path options and would create a safe environment for employees who are considering a career change. The Employee Development and Growth E (EDGE), previously offered at Sandia, is an example of a program that was dedicated to career development. That program has since been integrated into the performance-appraisal process at Sandia.

Various sabbatical programs were discussed. Each laboratory could create a leave policy that would hold a job for 1 to 2 years, so an employee could attend to family needs. Such leave programs might also provide a benefit for recruitment and retention of technical women if they were available to early career employees such as postdoctoral fellows. The program also could allow sabbatical leaves for 3 to 12 months after an employee reaches a certain number of service years.

Network of Women: To be their own advocates, the forum participants agreed that women must take responsibility to educate themselves and upper management on the issues and concerns of career development. Each laboratory would benefit from an executive champion for women's issues. A point of contact at each laboratory could share information in the form of documents, best practices, issues, and solutions regarding dual career paths. To continue the dialogue among women at the three laboratories, participants agreed to schedule another forum, and Lawrence Berkeley National Laboratory offered to host the event.

Individuals: Individuals must take responsibility for their own career development by seeking mentor relationships, supporting each other, and clearly expressing their needs.

Alternative Work Schedules

Laboratories: All of the sites need programs that include the various options for flexible work schedules, including 4/10, 9/80, and comp time. The official policies in these areas must be clearly and unambiguously described in documentation that is readily available to all employees. This approach will help ensure that policies are applied consistently across the various

organizations within each laboratory. These programs should not be advertised as a women's issue or a childcare issue, so all employees can have the opportunity to benefit from them. The policies of the laboratories with respect to job performance should emphasize performance-based measures rather than hours-based measures. Finally, the laboratories must encourage a clear discussion between managers and employees of the expectations for each employee who chooses a flexible schedule, including how performance will be assessed.

Network of Women: The women at each site are encouraged to establish a support network for employees who work alternative schedules. Establishing training on dealing with misperceptions would also be useful. Women are encouraged to use the newly established Tri-Laboratory Women's Network to analyze current programs for flexible work arrangements—comparing and contrasting policies and highlighting those that are especially effective. In fact, women can use simple methods such as e-mail exchanges to discuss efforts to refine current programs or to develop new programs at each site.

Individuals: As individuals, women should serve as role models for others by taking responsibility for their own choices. When working an alternative schedule, individuals must be diligent about communicating the times when they are available. They should attempt to be flexible where possible but guard the boundaries so that the benefits of the alternative hours are not whittled away.

Management Training and Accountability

Laboratories: Hiring practices should strive to fill skill needs rather than target the job to specific individuals. Work teams should be encouraged to give input on potential new hires. Implementing these suggestions would be one approach to demonstrating management accountability.

Managers and supervisors should receive training on providing effective performance appraisals and on improving people skills. Mentoring programs for other managers would contribute to developing new managers and would improve overall management strengths.

Network of Women: Women in the laboratories can bring creative approaches to improving management training and accountability by teaming technical leaders with personnel managers. They also can support laboratory efforts to hire already trained and experienced managers as opposed to promoting people into management roles solely on the basis of technical strengths.

Women can provide suggestions and strategies for creating the model workplace. These discussions can also help individuals to grow and change. By forming and maintaining a women's network among the forum participants and interested parties, the "network" can exchange information on successes. The next forum could be scheduled to review current issues and raise new areas of emphasis.

Individuals: Each individual can increase awareness of her job responsibilities and skills by meeting with her supervisor to discuss career opportunities and to document an action plan. Constructive critiques of managers' abilities and interest in their employees will help improve the quality of career path discussions. Individuals should take advantage of opportunities to network with peers.

Mentoring

Laboratories: Formal mentoring programs must include metrics to measure their added value. SNL is reassessing its program and developing solid metrics to measure value. Account and/or project numbers could be established to track mentoring time.

Managers can serve as role models and can provide support for the mentors and protégés in formal programs. They also could be held accountable to reward and recognize people in their organizations who participate formally or informally as either mentors or protégés.

Network of Women: Women must promote communication among themselves, for example by forming a coalition among women to help each other find their voices. Forum participants at each laboratory might also develop a welcome package for new hires or start a network within a work group.

Women are also encouraged to leverage the efforts of other laboratories that are further along in a mentoring program. Regular communication among the women of the laboratories, DOE, and NNSA are encouraged. Having an annual or biennial forum is also recommended.

Individuals: Women must take the initiative to connect with new hires. They also must become mentors, either formally or informally, for other women and demand credit for mentoring.

Networking

Laboratories: Human Resource organizations can help women form networking groups by sponsoring and encouraging participation in peer group associations, such as new employee groups. The laboratories can provide communication channels and resources such as Web sites, newsletters, databases to help identify networking groups and connect the participants.

Network of Women: Women at the laboratories, either through formal organizations or informal forums, can organize monthly networking activities such as brown-bag lunches and book clubs. These activities should include all women, not only those in technical fields. Networking among women at the laboratories can be established and maintained through an e-mail newsletter or a Web site. A Web site could provide the list of the forum attendees and other interested women, maintain a list server to share information on a specific topic, and provide updates on each laboratory's activities as well as information on upcoming forums.

Individuals: Individual women can take personal responsibility for building networks that relate to their specific career goals. For example, they can participate in clubs and

professional organizations. To help other women, they can volunteer time to serve in a network and introduce colleagues to networking activities.

Communication

Laboratories: The laboratories should work to hire more women. All job opportunities should be posted to allow access to all qualified employees. The laboratories also should eliminate the use of generic postings.

The laboratories must continue to raise awareness of the importance of understanding style differences. For example, the DISC exercise, which is offered as part of many leadership and management courses, helps individuals identify their personality type and communication style and how these attributes affect interactions with coworkers and supervisors. Management should encourage and support such training by rewarding attendance and leading the way.

Individuals: Personal accountability in supporting women is critical.

APPENDIX B
SPECIAL PANEL OF MANAGEMENT REPRESENTATIVES

A panel of management representatives from each laboratory discussed actions the laboratories had taken or were taking to improve the workplace. The panel was moderated by Lynn Jones and included the following participants:

- Don Blanton, Vice President of Human Resources and Protection Services at Sandia National Laboratories.

- Patricia N. Smith, Director of Site Operations at the California site of Sandia National Laboratories.

- Judith Bannon Snow, Deputy Associate Director for Strategic Research at Los Alamos National Laboratory.

- Janet Gertler Tulk, Associate Director for Administration and Laboratory Counsel at Lawrence Livermore National Laboratory.

Lynn asked the panelists to discuss the status of programs and policies at each site that address the areas of work/life balance and career development and mentoring. The information in this section captures and expands upon their discussion.

Work/Life Balance Issues at the Laboratories

Each laboratory has several programs designed to aid individuals in balancing the needs of work and personal life. These fall into three general categories: programs for long-term flexible work arrangements, programs for short-term special life situations, and programs to provide services such as childcare on site or nearby. Some programs are particularly notable and should be considered by the other sites.

Each laboratory has many of the standard programs providing flexible work hours, holidays, and generous vacation and sick-leave packages. In addition, each laboratory has programs for part-time schedules, telecommuting, and other alternative work schedules, which are available to employees provided the arrangements do not conflicts with the business needs of the organization. The consistency of application and the acceptability of flexible working arrangements are quite variable across each site. Panelists acknowledged that, although the policies for these programs do not explicitly limit the performance ratings of part-time and telecommuting employees, the culture within each laboratory might tend to limit the ranking of these employees.

SNL and LANL panelists discussed successful implementation of 9/80 work schedules (wherein an employee works eight 9-hour shifts and one 8-hour shift, and receives the tenth workday off, typically Friday). Panelists reported that the 9/80 schedules are operational and fairly well accepted in the culture. LLNL is implementing this option in FY 2003. A few job-

sharing arrangements have been made at LLNL and SNL, but not at LANL. To adjust for special life situations such as family emergencies, all sites have programs for extended leave and vacation or leave donation. SNL has a vacation buy program that allows employees to extend their leave time.

Convenience services for employees are becoming more available. For example, LLNL has a long-standing childcare facility nearby, which is also available to employees of SNL/California. Unfortunately, this program is so popular that the waiting list is long; thus, many employees who want the program cannot use it. SNL/New Mexico employees can use childcare facilities at Kirtland Air Force Base, and in 2003, that laboratory will open a new facility just off site. This facility will be a small, high-quality center and, as such, is relatively expensive. LANL has submitted a proposal to DOE for an on-site childcare facility.

To varying degrees, other services are available on site or nearby at all of the laboratories, such as an employee store for photo processing or stamp purchase, a credit union or bank, and information about elder-care and adoption referral services within the community. Again, panelists acknowledged that these programs are small, and the laboratories receive many requests to improve or expand them.

Career Development and Mentoring at the Laboratories

All of the sites have formal and informal programs to support career development. Supervisors are required to discuss career opportunities and training needs with employees as part of annual employee performance assessment processes. However, these discussions tend to be ad hoc in nature, and many supervisors are not trained in how to make them more effective for employees. Inconsistent implementation of the processes is also a problem at all of the laboratories.

Education for specific skill development is available at all three laboratories. Each site also offers training programs for managers and programmatic or specific technical field needs. Examples include the Emerging Leadership Program at LLNL, and the Weapons Intern Program and Leadership Academy at SNL. LANL's Leadership Center includes a Leadership Institute, which is a week-long, off-site, in-residence program; a Management Institute, which offers more information on hands-on operation; and a Senior Scientist and Engineer Institute, which is designed to help employees develop the skills they need to effectively lead a research project or program. SNL has formal succession planning for upper-level management positions.

Each site has formal and informal mentoring programs. The formal programs are designed to help match mentors and protégées as well as to provide training for participants. The level of participation in these programs is very small—only a few hundred employees participate out of laboratory populations in the thousands.

LLNL and LANL are also participating in MentorNet, an online mentoring program that matches women students in science and engineering with professionals in industry. These programs have helped to encourage the sense that mentoring is a positive part of each laboratory's culture.

APPENDIX C
MARCH 7, 2002, LETTER FROM CONGRESSWOMAN ELLEN TAUSCHER

Framing the Model Workplace
c/o Dorothy Bishop
Lawrence Livermore National Laboratory
Livermore, CA 94551

Dear Framing the Model Workplace Participants:

Congratulations on pulling this Forum together! It is quite an accomplishment any time you get all three National Security Labs—Los Alamos, Sandia and Livermore—working together. No doubt great things will come of this!

Last summer I met with several of you at Livermore to talk about your efforts to follow up the CAWMSET Forum with local recommendations for Livermore and Sandia/California. A primary focus of the CAWMSET Forum was to make Livermore and Sandia better places for women scientists and engineers to work. One of your local recommendations was to work with management at Livermore Laboratory to increase the diversity of senior management. When we met, I could tell you had succeeded in that goal just by seeing all the new women managers in the room. You should relish this accomplishment. There is no doubt in my mind that a more diverse management at Livermore Laboratory is going to make it a better environment for everyone to work in.

At our meeting many of you told me that more needed to be done to reshape Livermore's workplace into a more supportive, flexible and inclusive environment. Your specific concerns included the need for expanded childcare, flexible work schedules, civility in the workplace, and addressing disparities in promotion and pay. A recent survey at Livermore has confirmed that many employees at the Laboratory, both men and women, share these concerns.

Taking on these issues sounded like a worthy, but hugely difficult task. I strongly urged you to put your heads together with your counterparts at Los Alamos and Sandia/Albuquerque National Laboratories. The Laboratories all have areas of strength and weaknesses, some of which are shared and some of which are unique to each Laboratory. For example, Sandia Laboratory has already looked at ways to address childcare and elder care issues and alternative work schedules, but is interested in doing more to reward mentoring and recruiting and having a more diverse workforce.

I believe that the National Laboratories are in a unique position to not only influence, but also to take a leading role in creating the model workplace. With your large, diverse, multidisciplinary workforces, you are ideal test sites for the ideas that have been generated to enhance work environments. Getting the Laboratories together to share ideas and to create a strong network is the logical first step in this effort.

I know that the Spring Forum 2002 will be as successful as the CAWMSET Forum. I look forward to meeting with some of you later this year to hear more about today's events and the recommendations that result from your exchange.

Have the best of success today!

Sincerely, Congresswoman Ellen Tauscher

APPENDIX D
MARCH 26, 2002, PRESENTATION BY CONGRESSWOMAN HEATHER WILSON

It's a real pleasure to be here with you this morning. Ellen Tauscher is one of my buddies in the House of Representatives. I know she started this out in California, and she is going to be talking to you, at least remotely, at lunchtime today. She and I, of course representing two of the nation's Laboratories, also served together on the Armed Services Committee and joined together in a number of efforts. There is in the House of Representatives certain smaller cliques and groups: there is the Western caucus, there is the Rural Health Care caucus, and there is the Air Force caucus. Little groups, informal collections of people. And there is one that we don't publicize very much—WWW, which stands for Wild Western Women. It is a very open collection of women who occasionally get together. The only requirement for membership is that you have a gym sock with a roll of quarters in it, because sometimes you just need to go out in the parking lot and take care of somebody.

Ellen is a good friend, and I am very glad that she kicked this off. All of us in this room know that sometimes organizations don't seem to be very sensitive to the needs of employees, particularly if you are a small percentage of the employees. When I went to the Air Force Academy, I was in the third class with women—class of 1982. I went back up there two weeks ago. I can remember as a 17-year-old, I had a one-way ticket to Colorado. I had never been there before in my life. You arrive at the bottom of this big ramp. There is this saying written in aluminum over the ramp. It is still there by the way. It says "Bring Me Men," as you look up. It is the first line from a wonderful poem:

Bring me men to match my mountains
Bring me men to match my plains
Men with empires in their purpose
and new eras in their brains.

[—Sam Walter Fass]

It is a wonderful poem. At the time of seventeen, I wanted to climb up there and sign my name and room number. But it was also part of the subtle challenge of being a woman in a man's world. It was that way at the Academy and a little bit that way in the Air Force. It is still that way for women in science and engineering. All of you in this room have the daily experience of being one of one or two women in the room where you have a meeting. I think Lynn and I were the only ones in the room when Lockheed-Martin (then Martin Marietta) won the contract to operate Sandia National Laboratories. The then Secretary of Energy said your proposal is good, but you have no plan for managing diversity. They knew they had to come up with this plan. They looked around the room, and, Don, I think you were there at the time. There were only two people in the room who weren't middle-aged, regular, white guys. They turned to Lynn and me and asked if we could start to get a handle on this and what it means.

I think the Laboratories, and traditionally male-dominated professions, have done a pretty good job in the last 10 to 15 years of trying to make people more welcome who may not fit the mold of what a scientist or engineer is or a military officer is or what a member of Congress looks like. The reality is that a lot of the rules of the workplace aren't always very family

friendly. I ran the Children Youth and Families Department before I came to the Congress. That was one of the least family-friendly workplaces I had ever worked in, surprisingly. Also, the first job I ever had where women outnumbered men in the workplace, at Children Youth and Families. So we got a group of women together, all volunteers—actually a group of employees, not all women, but in that case it was then mostly women who volunteered. We said rewrite the rules. At first, they did not believe they would actually be implemented if we rewrote the rules to allow flex time, to allow four 10-hour days instead of the straight five 8-hour days, to allow comp time and time off to attend to family matters. A lot of folks if they had to work overtime didn't want to be paid for it. They wanted to have the comp time to be able to go to the school play, to be able to do things to balance work and family. We also looked very carefully at whether there were, as happens in all too many organization, plenty of women in the organization but weren't women in positions of key leadership, being moved along to those positions of leadership that they would need later on in their careers. Fortunately at Children Youth and Family, we didn't find that kind of typecasting that said: "Yes, we have plenty of women here; of course, none of them make big decisions, but we're okay." Too often that happens in organizations.

A lot of that has to do with mentorship. That's what I wanted to leave with you as a challenge. I don't believe cream rises to the top, it doesn't. It's pulled there. It's guided there. All of you who have been in this business more than ten years know that there are things you need to do early on in your career to pave the way for other things you need to do. You need to share those things with young women, with people who may not know the ropes, and make sure that the ladder you climbed up is still there for them. That requires role modeling and mentoring and even just those quiet round tables of communication and places to be where you are not just one of the twenty in the room. Where you can take off your shoes, no pumps allowed, and sit down and yak.

We do that in the United States Congress. There is a room, called the Lindsey Boggs room. It is off the old House Chamber. The real reason for it is because there is still no women's restroom near the floor of the House. There is a men's room, but we still haven't gotten to the point where there is a women's room near the floor of the House. But there is the Lindsey Boggs room—a place for women members. You need those places. If you are a minority or you are in a small group and sometimes always feel different, you need to create places and opportunities where you don't have to feel different. That's okay to feel that way and give each other the support, and the networking, and just the freedom to relax a little bit.

This Laboratory doesn't have a sign out front that says "Bring me men." It is open to everybody. We need to be encouraging young women, particularly our daughters, our nieces, the kids in our neighborhood, to be interested in and fired up by math and science. I enjoy doing that with young women, particularly middle school girls. Half of the middle school kids are paying attention and half of them are not. The problem is you cannot tell which half. I think it is very important for girls to know that math and science and careers in math and science are open to them. They are wonderful fun. You get to do neat things, blow things up, and make sparks. It's great! It is a lot of fun. And it is something they can do, too.

Thank all of you for what you do. I am glad you gathered together here so that these Laboratories can draw from the broadest possible talent pool in the United States. In order for them to have access to that talent pool, the talent pool has to include women. So thank you all.

APPENDIX E
WELCOME LETTER FROM JOAN WOODARD
EXECUTIVE VICE PRESIDENT, SANDIA NATIONAL LABORATORIES

Good morning. Welcome to Sandia, and welcome to New Mexico!

I regret that I cannot attend your proceedings today. I was pleased and eager to participate when this tri-lab forum was arranged. Unfortunately, an unavoidable conflict in Washington keeps me from joining you there.

Let me extend a special welcome to our distinguished guests. We hope to learn from you and be inspired by you today. Thank you for your time and dedication.

And to the women of the three Laboratories who are here: thank you. Your efforts to create work environments where women of science and technology are eager to work and build sustainable, meaningful careers is important . . . to me, personally, to Sandia, to NNSA, and to the nation.

I recently spent some time in Singapore, where I was fortunate to address a group of professional women. In preparing for that meeting, I reviewed the status of women in Singapore. I came away impressed with the rapid rise in women's education and participation in the labor force in Singapore, particularly in the 1990s. And I could see the energy with which they're organizing themselves for active mentoring, which is one area of focus for today's deliberations. I could also hear the concerns about maintaining a viable career AND having a life outside of work. As the old saw goes, "Life is NOT a dress rehearsal."

Women around the world are making extraordinary strides, and especially those in free-market economies (albeit some with very different cultural expectations of women). But I believe it's almost always with the leadership—or at least the very powerful example—of women in the United States, who over the last century focused their energies on a vision of a level playing field based on merit, not gender, and then systematically seized opportunities within the educational, political, and economic systems to work toward that goal.

My hopes for today's session are that:

- We will all be able to gain some insights on ways to create and sustain a work environment that is not only important for women in science and engineering but for all employees

- As representatives of the national laboratories, we will realize that we have yet another opportunity—and, may I say, obligation—to lead, not follow, other institutions in doing the right thing and doing it very well

- That we recognize and begin to develop ways to exploit our "strength in numbers." We must share our complementary strengths to accomplish far more than as individuals.

I believe we have an ambitious and energizing agenda. Thank you again for your support and enthusiasm.

Joan

APPENDIX F
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APPENDIX G
TOPICS GENERATED IN BROWN-BAG SESSIONS AT LLNL

Because this technical women's forum and previous meetings have been so successful, forum participants want to continue to meet periodically, both to discuss the changing workplace and to strengthen the network of women across the NNSA complex. Since the spring forum, the technical women at LLNL have held several brown-bag session to consider future topics for discussion. The lists in this appendix were generated at those meetings.

Career Development

- What policies and procedures are needed to create a dual-track career ladder: management vs. technical?

- What are the most effective ways to improve career development and training for technical women? Would these methods be useful to women outside the technical ranks? To all technical employees? To all employees—technical or administrative?

- What policies and procedures are needed to implement flexible career paths at the laboratories? If policies and procedures are in place, how can we ensure their effective use throughout the various organizations at the laboratories?

- Does each laboratory offer enough nontraditional, flexible career paths? What steps can we take to support technical women and men who choose these paths?

- How can we best communicate with people in different stages of their careers?

- What steps can technical women take—as a network and as individuals—to improve their opportunities for advancement and promotion within each laboratory? For example, how can women contribute to leading the laboratory, succession planning, career development and planning, visibility opportunities, opportunities for broadening skills and perspectives?

Communication

- How can we address incivility in the workplace? Do we need to develop a code of ethics for the technical workplace?

- How do technical employees—both women and men—gain access to upper-level managers at the laboratories? Does each laboratory have a "standard model" for communicating with management? Is it a model we can learn and teach others, or is a culture change needed?

- How can we ensure that women's work styles are valued at the laboratories?

- How can we improve the relationship between administrative and technical women? Are there cultural barriers we need to resolve?

- What training and mentoring do women need in learning to say no or in learning to prioritize? Are there socially accepted ways of saying no that we can learn and pass on to others?

Skilled Management

- What people skills are most important for managers at different levels of the laboratories (e.g., first-line supervisors vs. senior managers)? Do these skills differ by discipline?

- What steps are needed to ensure consistency in policy application and resource allocation across the laboratory? Are there areas where inconsistency threatens career success (e.g., in training and development)?

- How quickly does upper-level management respond to the need for change in the work environment or laboratory culture? Are there clear lines of responsibility and/or authority within the senior management team? When employees present a problem to the senior management council, do they receive a response?

- How can we create a culture of respectful but rigorous scientific debate? Will any of these actions lead to a culture that avoids conflict or stagnates creativity?

Work/Life Balance

- How can we—as a network of women and as individuals—support our coworkers' efforts to balance competing pressures at work and home?

- Are we as individuals trying to do it all? Can we take steps to model more realistic behavior?

- How does choosing a flexible schedule affect work/life balance? How does job security affect work/life balance?

- What steps can we take to resolve the so-called sandwich issues, where employees are responsible for childcare and elder care in the same home environment?

- What steps can we take to ensure that part-time employees or those on a flexible schedule are not exchanging schedule flexibility for job opportunities and career development?

Issues of Class

- What problems are encountered in the different policies for contract workers, term employees, and full-time employees? Are there steps we can take to improve working relationships between these groups?

- What steps can we take to improve the working relationships and communication between technical and administrative employees, or between exempt and non-exempt job classifications? Between matrix and nonmatrix employees? Between men and women?

- What steps can we take to eliminate the caste system that divides administrative and technical employee?

Mentoring

- What policies and procedures are needed to implement mentoring and networking programs at the laboratories? If such programs are available, are technical women effectively using them? Are they an expected part of career development?

- What steps can we take to provide credible, diverse mentors, especially for the network of technical women at the laboratories?

- How can we—as a network of women and as individuals—be champions for women and their professional growth?

- How can we ensure that new employees, especially technical women, are not isolated and can learn to work effectively within the laboratory culture?

Continuing Dialogue on Women's Issues

- How can we create and sustain points of nucleation (e.g., meaningful networking opportunities, critical masses of women)?

- What are we—as a network of women and as individuals—doing to create the model workplace?

- Are there steps we can take to end the propagation of gender discrimination at the laboratories?

- What changes are needed to attract talented, creative women scientists and engineers to the laboratories, and to retain them for long-term careers?

- How can we acknowledge positive changes in the workplace?